Evaluation of the Project
"Improvement of Mother and Child Health in Serabu Community Hospital,
Catholic Diocese Bo- Sierra Leone – 2015-2017"
Financed by Kindermissionswerk, Aachen

Mrs Kadiatu James, Supervisor of the Serabu Community Hospital
Dr Eva Grabosch, Paediatric, and Public Health Consultant

Time: 17.7. 2017 – 5.8.2017

Contents

Abbreviations and Acronyms

AIDS	Acquired Immuno-Deficiency Syndrome
ANC	Ante Natal Care
ART	Anti-Retroviral Treatment
BPEHS	Basic Package of Essential Health Services
CBHI	Community Based Health Insurance
CHC	Community Health Centre
CHO	Community Health Officer
CHP	Community Health Post
CHW	Community Health Worker
CMR	Child Mortality Rate
CMS	Central Medical Stores
CSO	Civil society organizations
DAC	Criteria for Evaluating Development Assistance
DFID	Department for International Development-UK
DHIS	District Health Information System
DHMT	District Health Management Team
DHS	Demographic and Health Survey
DHIS	District Health Information System
DHIS2	District Health Information Software 2
FHCI	Free Health Care Initiative
FP	Family Planning
GD	*German Doctors*
GAVI	Global Vaccine Alliance
GIZ	Gesellschaft für Internationale Zusammenarbeit
GOSL	Government of Sierra Leone
GPD	Gross Domestic Product
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HR / HRH	Human Resources / Human Resources for Health
HSSP	Health Sector Strategic Plan
IPC	Infection Prevention and Control
KMW	Kindermissionswerk
MCH	Maternal and Child Health
MCHP	Maternal and Child Health Post
MDG	Millennium Development Goals
MMR	Maternal Mortality Ratio
MOHS	Ministry of Health and Sanitation
MOU	Memorandum of Understanding
MS	Medical Superintendent
NGO	Non-Governmental Organisation
NHAP	National Health Action Plan
NHSSP	National Health Sector Strategic Plan
OPD	Out Patient Department
PHC	Primary Health Care
PHU	Peripheral Health Units (CHC, CHP and MCHP)
RUTF	Ready to Use Therapeutic Food
SAM	Severe acute malnutrition
SECHN	Senior Enrolled Community Health Nurse

SHI	Social Health Insurance
SLL	Sierra Leone Leones (currency)
SOP	Standard Operating Procedures
TB	Tuberculosis
TOR	Terms of Reference
UHC	Universal health coverage
UNDP	United Nations Development Program
UNICEF	United Nations Children Fund
UNFPA	United Nations Population Fund
WHO	World Health Organisation

Exchange Rates, 15 December 2015	**Exchange Rates, 7 August 2017**
1 Euro = 4,682.00 SLL	1 EUR = 8.916,65 SLL

Summary

An evaluation of the performance and outcome of the project of Serabu Community Hospital "**Improvement of Mother and Child Health in Serabu Community Hospital, Catholic Diocese Bo - Sierra Leone**" was carried out between 18.7.2017 - 5.8.2017. The project is financed by *Kindermissionswerk* (KMW) and implemented through the hospital in cooperation with *German Doctors* since 2014.
The hospital supervisor Mrs Kadiatu James agreed to be co-evaluator.
A mix of methods was applied: Document, material and equipment review, questionnaires, field visits to the communities, visits to other hospitals and the District Office, focus group discussions as well as key informant interviews.

The evaluation results confirm that the hospital is well functioning and serving the local population. Increasing utilisation rates are a consequence. Community members and patients praise the good services for mothers and children.

Training of Community Health Officers (CHOs) by specialists from *German Doctors* is highly appreciated by the hospital management and the community. There are now the first trained CHOs in surgery and anaesthetics who take over full responsibility for their respective subjects. Other staff members trained are nurses, nursing aids, midwives, and health workers from peripheral health units.

While the quality of care in respect to clinical service is high, there are still big challenges concerning the logistics of the hospital. Lack of a central storing place leads to material scattered everywhere which is making effective cleaning very difficult. Severe hygiene problems are resulting in the paediatric ward especially in the raining season, when the ward regularly is overcrowded.

The objective of strengthening preventive activities for mothers and children was achieved only partly: As planned the staff of 60 Primary Health Units, PHUs was invited for several trainings. The referral system from PHUs to the hospital for delivery service in emergencies was strengthened and functions well. Community talks were given by radio.
However, the Under 5 unit (U5), a governmental PHU in the hospital compound, could not be reached sufficiently with supervisory activities due to resistance of some staff members. A number of deficiencies were detected not only in this unit but also during the outreach activities performed by the same team.

Sierra Leone is and will remain for quite some time "a donor driven country", as one of the CHOs said. For Serabu Hospital, first steps are made to become "the driver". The hospital has a motivated management and some very experienced specialised CHOs. The management will try to find and employ a local doctor as Superintendent and it is going to develop a strategy for the future without foreign participation.

Financially, however, they remain dependent on foreign resources as long as the church is not considered as a cost-sharing partner of the government. The restructuring of CHASL as well as the intention to form a catholic health association may improve the position of the church in this respect.
At present, however, it is recommended to Kindermissionswerk (KMW) to continue financing the running costs and the training activities of Serabu Community Hospital. Additional support by the government and/or donors is necessary for urgently needed investments: rehabilitation of the whole hospital as well as building extensions for paediatrics, newborns and labour ward.

Possibilities for a broader training approach (training of CHOs in paediatrics) will be evaluated in cooperation with the bishop's conference and the government of Sierra Leone. G*erman Doctors* could send one paediatrician with one-year contract, who – as *German Doctors*' coordinator – could assist in such negotiations. At the same time, he/she could help the hospital management to reorganize the U5 clinic and the community work.

Introduction

Goal of the evaluation:

According to the Terms of References (TOR, ANNEX 2) of the mission, the performance and outcome of the project of Serabu Community Hospital "**Improvement of Mother and Child Health in Serabu Community Hospital, Catholic Diocese Bo - Sierra Leone**", which was financed by Kindermissionswerk (KMW) and implemented through the hospital in cooperation with *German Doctors* since 2014, was evaluated using the DAC Criteria: *Relevance, Efficiency, Effectiveness, Impact, and Sustainability*. The present project phase is ending in December 2017.

Use of the evaluation

The evaluation will be used to set a base and orientation frame for the future design of the program and strengthening of the organization. It should include recommendations to improve the impact of the program with special regards to the medical and Basic Health Care activities. It further should indicate areas of further organizational development opportunities.

Evaluators

Mrs Kadiatu James, Hospital Supervisor
Dr Eva Grabosch, Paediatric and Public Health Consultant for Kindermissionswerk, Aachen

Time of the evaluation:

18.7.2017 - 5.8.2017

Methods of the evaluation

A participatory approach to evaluation was used. The participation of the hospital supervisor as co-evaluator was extremely helpful because of her great experiences and her knowledge of the local situation.

A mix of the following methods was used:

- Document review, material / equipment review;
- Questionnaires to hospital staff, management and parents of patients;
- Field visits to primary health units and outreach village, visits to *Ola During Children Hospital* and *Brothers Hospitallers of St. John of God* in Lunsar and *Holy Spirit Hospital* in Makeni, visit to Bo District Hospital and Bo District Health Office;
- Focus group discussion with the Hospital Management Team and the Community Health Committee;
- Key informant interviews with beneficiaries, parents, management staff, programme management staff, medical staff, administrative staff, community stakeholders, *German Doctors* specialists, District Health Authorities (District Health Sister, Nutritionist, EPI officer)and the representative of the GIZ Health Programme for Sierra Leone.

Figure 1 Community Hospital Meeting

To make performances comparable with other health services in the country, we visited together with the hospital administrator other Christian and governmental services (hospitals and PHUs).
The target groups were included by exit interviews with patient's caretakers, discussions with health staff as well as a focus group discussion with the Community Hospital Committee. Management issues were discussed with the hospital management team, the District health Nurse and other key resource people (see travel schedule of the visit ANNEX 1).

Questionnaires and discussion at the hospital were used to create awareness concerning problems found. Before departure a feedback session about the results of the evaluation and recommendations were given to the hospital management team.

Many hours of discussions concerning possible future activities were spent with the hospital manager as well as with the team of German Doctors including Dr Christa von Örtzen, who is holding the position of Medical Superintendent of Serabu Hospital and Dr Lisa Sous-Braun, one of the two managing directors of German Doctors.

Socio-political Background

Socio-economic situation

Sierra Leone, which has a population of 7,075,241 (census 2015), is situated on the west coast of Africa, sharing borders with Guinea and Liberia. Its 400km coastline overlooks the North Atlantic Ocean, and it has approximately 71,740 sq. km of land area. The 14 districts of Sierra Leone are divided into 149 chiefdoms, which are governed by traditionally selected paramount chiefs. Serabu Community Hospital is situated in the Southern Province which has a population of almost 1,5 million and is divided in four districts: Bo, Bonthe, Moyamba und Pujehun and 52 Chiefdoms. Provincial capital is Bo. The climate is tropical, with a hot, humid, rainy season from May to October and a dry season from November to April.

At a Glance

Population: 6,344,000
Per capita income: $1,360
Life expectancy at birth women/men: 46/45 yrs
Under 5 mortality: 1,750/1000 live births

Source: Population Reference, 2014

Top 10 Causes of Death

1. Malaria 17%
2. Lower respiratory infections 9%
3. Protein-energy malnutrition 9%
4. Pre-term birth complications 5%
5. Diarrheal disease 5%
6. HIV 4%
7. Cancer 4%
8. Stroke 4%
9. Tuberculosis 4%
10. Ischemic heart disease 2%

Source: GBD Compare (http://viz.healthmetricsandevaluation.org/gbd-compare/), 2010

The Gross National Income per capita of Sierra Leone is $1,690 while the GDP growth rate was 6% in 2013. Forty-three percent of the population above 15 years are literate and life expectancy at birth is just 45 years (see also ANNEX 3 and 5). The poverty level is high with more than 70% of the population living under extreme poverty and less than 50% of the population having access to basic sanitation services and good clean water. Under-five mortality rate and maternal mortality ratio are extremely high (120 / 1000 live births and 1,165 / 100,000 live births respectively). The Human Development Index rank for Sierra Leone is 177 out of 187 countries!

Total health expenditure per capita and year is $95 of which 13% origins from donors, 16% from government, and 76% from private out-of-pocket household contributions. Government expenditure on health as a percentage of total government expenditure is 12.3%, approaching the 15% target of the Abuja Declaration. Major external supporters of the health sector include the Global Fund, the UK Department for International Development (DFID), the European Union (EU), the African Development Fund (ADF), and Global Vaccine Alliance (GAVI).

Health care in Sierra Leone

Health system

Much of the health care infrastructure was decimated during the Civil War. The Ebola epidemic made things worse. The health service is still in the process of being organised with hospitals and PHU being rebuilt or created and staff being trained.

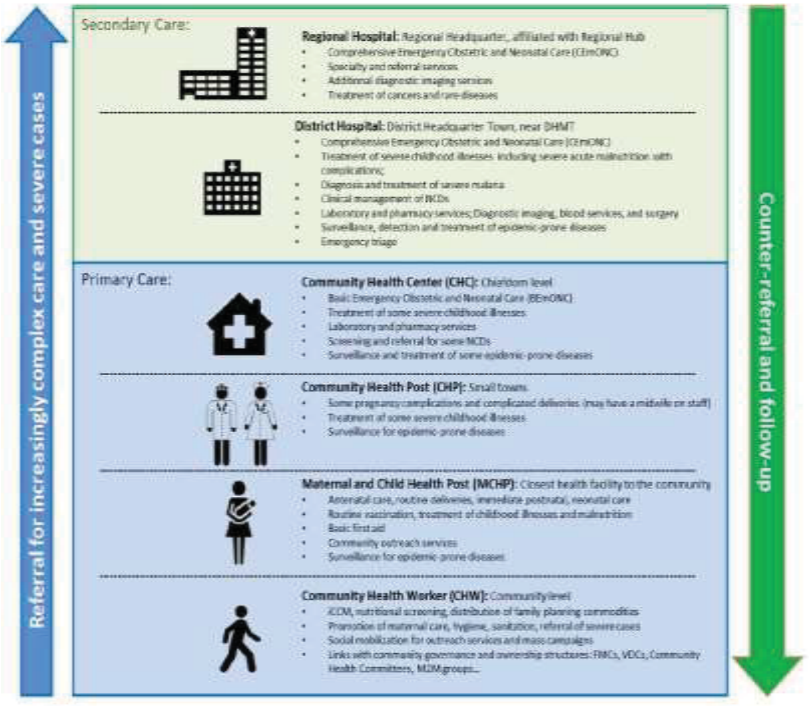
The Ministry of Health manages 85% of health facilities in Sierra Leone. The Church is following closely, while the private and NGO sector is taking up only small percentages of the sector. A network of 1,264 public and private health facilities, including 40 hospitals, serves the country. Sierra Leone is divided into 14 health districts that correspond to the districts of Sierra Leone. There are 1,228 peripheral health units (PHUs) across the country.

Each district has a district hospital and an average of 50 peripheral health units (PHU). The management team of the district is responsible for planning, organising, and monitoring health provision, training of personnel, supplying equipment and drugs, and working with communities of its district. The PHUs are designed to be the delivery point for primary health care in the country.

There are three main types:

- **Community Health Centres (CHCs)** are located at Chiefdom level. They are covering a population ranging from 10,000 to 20,000 and are to be staffed with a community health officer (CHO), by State Enrolled Community Health Nurses (SECHN), Mother and Child Health Aides, an epidemiological disease control assistant, and an environmental health assistant. It is supposed to carry out health prevention measures, cures, and health promotion activities and is in charge of overseeing the other PHUs in the area. Each chiefdom, the unit of local government in Sierra Leone below the level of district, should have at least one community health centre.

Figure 1: Levels of Service Delivery



- Community health posts (CHP) are at small town level with a population between 5,000 and 10,000. They are staffed by State Enrolled Community Health Nurses (SECHNs), midwives and MCH Aides. They perform a similar function to community health centres but have fewer facilities and are used to refer patients to the health centre or the district hospital.
- Maternal and Child Health posts are the first level of contact on the ground and are located in villages of populations between 500-2000.

In April 2010, Sierra Leone launched the "Free Health Care Initiative (FHCI)", a system of free healthcare for pregnant and breast-feeding women and children under five in government facilities as a first step towards universal health coverage (UHC) attainment. The Initiative also provides malaria testing and treatment services free to the entire population. The scheme is funded mainly by the United Kingdom

and United Nations who have paid to refurbish hospitals, supply drugs, and pay healthcare professionals' wages. The British government's funding comes from the Department for International Development (DFID) and amounts a total allocation of $70.5 million for the 10-year-long "Reproduction and Child Health Care" plan. The Ministry of Health and Sanitation's first monitoring bulletin on the initiative shows steady positive trends in access of services by women and children.
Unfortunately, private health care facilities such as the Christian health facilities are not part of this initiative and there are serious doubts about its sustainability.

The only health insurance currently available to Sierra Leoneans is for the few working in the private sector. Since 2008, there are efforts to design a universal, unitary national health scheme that covers the whole population including the poor. However, analysts fear that a general scheme will not be a reality for several years to come.

Routine data collection, management, dissemination, and use are faced with many challenges. Given the low coverage of the District Health Information System (DHIS) and problematic data quality, there is a general feeling that the reports based on DHIS2 software are not accurate. Main reasons for the incomplete coverage of DHIS2 is that (1) some programs like HIV, TB have not been included in the DHIS2 reporting tools and in the software itself, (2) district hospitals and mission hospitals have been left out in the implementation of the DHIS2. Serabu Hospital was asked only recently to report to the government. Since August 1, 2017, a government registration book is used.

Health Staff in Sierra Leone

The health sector has developed an "Human Resources for Health (HRH) policy 2012", an "HRH strategic plan 2012-2016" and an "HRH Profile". As part of the health sector coordination mechanism, an HRH Technical Working Group was created.

Table 9: Staff at PHU and DH, based on BPEHS versus currently available cadre

STAFF Norms / available	CHC	CHP	MCHP	District Hosp	Need of HF (BPEHS)	Available now	Gaps/ Surplus
MCH Aides/HF	4	2	3				
MCH Aides total	1.064	714	1.704	-	3.482	2.000	1.482 (Gap)
Nurses/HF	2	1	0	59			
Nurses total	532	357	0	2.537	3.426	4.213	787 (Gap)
SECHN/HF	2	1	0	12			
SECHN Total	532	357	0	588	1477	2815	1338 (Surplus)
CHOs & Assistants /HF	3	1	0	1			
CHOs & Assistants Total	798	357	0	49	1204	598	606 (Gap)
Midwives/HF	2	1	0	8			
Midwives total	532	357	0	344	1.233	291	942 (Gap)
Drs/HF				13			
Drs Total				275	559	275	284 (Gap)

Source: *BPEHS, Resilient Zero fact-pack and NHSSP*

The staff situation is dramatic esp. concerning midwives, doctors, and specialists needed for training of doctors and CHOs. The World Health Organization recommends at least 20 physicians per population of 100 000. Presently, in Sierra Leone there are on average four doctors/100 000. However, most of these doctors and other qualified staff are working in the Western Zone, e.g. in Freetown. In 2009

there were only four doctors working in the Southern Province with its population of 1,5 million (see ANNEX 4)! Presently, only one paediatrician is working as employee of the government in Sierra Leone! Several foreign institutions and NGOs (*German Doctors*, *Cap Anamur*, *Medecins sans frontiers* MSF), Spanish NGOs etc.) send doctors for supplementation - often as short time experts.

The situation in the nursing profession is different. While Senior Registered Nurses (SRN) are scarce, not all other trained nursing staff (SECHN and nursing aids) is absorbable by the system due to lack of posts/funding.

Staff of government health facilities receives more or less regular trainings from Ministry programs such as EPI, Malaria, and HIV and from implementing partners. Those trainings are short-term and targeted to improve specific service provisions or reporting. Christian hospitals usually do not benefit of such trainings.

Faced with huge health care disparities, Sierra Leone expanded the health care provider team by adding Community Health Officers (CHO) to demonstrate commitment to community healthcare. The CHO are not only appointed to Community Health Centres in all 14 districts, but at present serve as well in District hospitals, where the number of medical doctors is still insufficient. So far, approximately 500 CHOs have been trained. They provide all aspects of primary health care to communities, including minor surgery, basic diagnostic lab skills, and supervision of PHU staff. The training takes 3 years. The curriculum has a very strong preventive emphasis on community health, including principles of public health (epidemiology, health statistics, demography). Graduates currently receive a *Higher National Diploma in Community Health Sciences*; there are plans to upgrade this to a Bachelor of Science (BSc) degree.
A surgical upgrading of experienced CHOs through a three-year long additional training, is currently being piloted in Masanga; graduates from this pilot training are now practicing in District Hospitals performing surgical procedures with or without physician surgeon. Other specialized CHO cadres such as Ophthalmic CHOs, anaesthetic CHO and mental health CHOs are being piloted/developed. Last February (2014) the Sierra Leone Association of Community Health Officers had their first Annual General Assembly.

Currently there are nearly 13.000 Community Health Worker (CHW) trained and supported by (inter) national NGOs / CSOs. In The National Community Health Worker Policy 2016-2020 states that all CHWs must receive SLL100,000 per month and all peer supervisors of CHWs must receive SLL150,000 per month. Some of our key informants doubted the efficiency and sustainability of this new programme.

Serabu Hospital

Background

The Serabu Community Hospital belongs to the Catholic Diocese of Bo and is located 52 km southwest of the District Capital Bo that has an estimated population of 300,000. The City of Bo, which is the second Capital City in the country and the headquarters of the Southern Region, is the seat of the Bishop of the Catholic Diocese of Bo.

Before the advent of the war, Serabu community was renowned for one of the best referral hospitals in Sierra Leone with the Holy Rosary Sisters establishing it in 1954 with the aim of providing medical services to the rural poor. Unfortunately, Serabu and the rest of Bumpe Ngao Chiefdom suffered severe destruction in the hands of the rebels 1994. Serabu Hospital was almost completely destroyed. At the end of the war, the hospital was rehabilitated with funding provided by the European Union between 2009 and 2011. It was towards the end of this funding that *German Doctors* intervened to save the lives of the people especially women and children, who form the largest proportion (80%) of the hospitals clientele. The Catholic Diocese of Bo signed a Memorandum of Understanding with *German Doctors* through which funds are provided for the running of the hospital.

The Hospital is located in Bumpe Ngao Chiefdom, one of 15 chiefdoms of Bo district, 52 km southwest of the district capital Bo. The chiefdom has an estimated population of 48.600 inhabitants. However, the hospital provides health services not only to Bumpe Ngao but also to six chiefdoms covering three districts - Bo, Bonthe and Moyamba districts - with an estimated population of around 60.000 — 70.000 inhabitants. Roads in this remote area are very poor and the predominantly very poor population has no access to the hospitals in the district capitals.

Figure 2 Access road to Bo

Mission of the Hospital

Serabu Hospital is a community hospital that provides affordable, accessible, and quality basic health services in order to improve the health and sanitation of the population especially the most vulnerable people like children under five, pregnant women, lactating mothers in Bumpe Ngao Chiefdom and its neighbouring chiefdoms by a trained and qualified local staff.

Hospital Management and Infrastructure.

The hospital is managed by the hospital management team (see organigram in ANNEX 8) led by a very motivated and capable hospital manager. He reports to the bishop and his supervisor, who is representing and advising the bishop on matters regarding Serabu Hospital. The supervisor, Mrs Kadiatu James, is a retired lady, who has experience in managing Catholic hospitals and has great knowledge in the health sector. Once a month she comes to Serabu for a one-week monitoring visit. She advises the manager where necessary. As stated above, Mrs Kadiatu James accepted to be co-evaluator of the KMW project.

An advisory board - made up of health experts of the district government, independent medical experts, as well as representatives of the community and of Caritas Bo - advises the bishop on overall issues concerning the hospital goals.

The hospital has departments of maternity, surgery, internal medicine, and paediatrics. Totally, it has 144 beds. Support services include triage, registry, pharmacy, laboratory, outpatient department, x-ray, and ultrasound and mother's waiting house. The paediatric department is divided in 3 wards: the newborn unit, the emergency ward and ward C for all other children including a room for severely malnourished children.

Figure 3with U5 Paediatric Department

The hospital is powered by solar energy generated from a solar system donated by the Kindermissionswerk. Especially during the rainy season, a generator serves as back up. This system has proved very efficient and helpful to the hospital as it provides sustainable twenty-four hours electricity for the hospital.

In the area of water supply, the hospital has a twenty-four hour running water system in all wards and departments (taps) from a treated borehole pumped by solar to the reservoir.

The hospital has an ambulance and it received two hard top land cruisers during the Ebola outbreak: one from the German Foreign Ministry and the other from the Christian Health Association of Sierra Leone, CHASL.

At present, 94 members of staff, employed by the Catholic Diocese of Bo and financed by *German Doctors* are providing service for the poor (Table 1). The medical focus of Serabu Community Hospital is on mother and child health including basic neonatology, infectious diseases, and emergency surgery. Together with German specialists (surgeons, paediatricians, anaesthetists, and gynaecologists) training is given to local health staff. One German specialist has a long time contract (three years), while all others are coming for a six weeks period.

Staff as of 31" December 2015	
Administration	1 3
Long Term doctors (German Doctors during handing over))	2
Consultant doctors (German Doctors, every six weeks)	4
Community Health Officers	8
State Registered Nurse	1
Mid Wife	1
SECHNs	17
Laboratory	3
Pharmacy	2
MCH-AIDES	1
Nursing Aides	22
Electrician	I
Plumber	1
Cleaners	6
Security	5
Groundsmen	6
Cook	I

Table 1: Staff Serabu Community Hospital

Funding of Hospital and community activities

Until now, the government contribution to Serabu Hospital is very small. The government supplies limited amount of drugs for the community outreach program including TB and Malaria drugs as well as food for therapeutic feeding (RUTF) for severely malnourished children. Furthermore, it provides vaccines for immunisation. However, the government is hesitant to finance any personnel.

Since April 2013, the government has recognised Serabu Hospital as being one training hospital out of eight that trains Community Health Officers (CHOs) in surgical and obstetric skills. The government also accepted that Serabu Hospital is participating in the governmental training program of upgrading CHOs in anaesthesia.

All recurrent expenditures of Serabu Hospital are covered by funds from *German Doctors,* private donations and through revenue received from patients. An annual budget is negotiated each year with *German Doctors*. Monthly budget reports are sent to *German Doctors* headquarters. The 2016 audit by an external auditor proves that there is a sound financial management.

Kindermissonswerk "Die Sternsinger" already supported the hospital with several other activities and short –term projects: Rehabilitation of the water and sanitation system, installation of a 198 kWh solar system and setting up of a newborn unit in October 2013 as an integrated part of the children ward.

Utilisation of Serabu Community Hospital

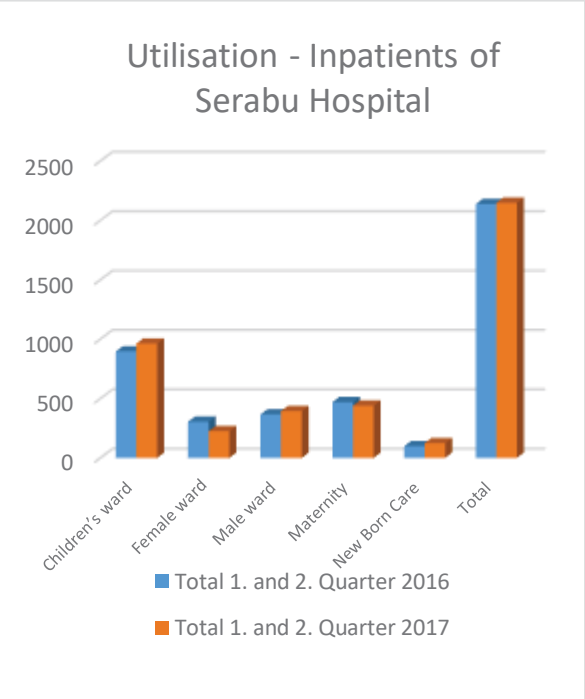


Table 3: Utilisation of Serabu Hospital

The hospital is adhering to the national policy of free health care to children and pregnant and lactating women (FHCI) but *German Doctors* are covering the expenses. In contrast to the catholic hospitals visited in Lunsar and Makeni, which cannot cover all these expenses, Serabu Hospital is well utilised. Especially in the children's ward and the newborn unit, attendance figures are ever increasing (Table 2 and 3).

	Total Jan – June 2016	Total Jan – June 2017
Children's ward	898	963
Female ward	305	226
Male ward	367	395
Maternity	470	440
New Born Care	99	124
Total inpatients	**2139**	**2148**
Total Outpatient department (all age groups)	**6410**	**6170**

Table 2: Number of inpatients, Serabu Community Hospital

Community Health Jan – June 2017	
<5y outreach visits	463
ANC	1060
Under 5 clinic	1810
Total	**3333**

The Community health clinic in the hospital compound serves as government clinic though the staff is employed by Bo diocese. In the first 6 months, 3333 children and pregnant women were seen for antenatal care / vaccination or growth monitoring (Table 4). The clinic does not provides curative care. Sick children are advised to go to the general outpatient department of the hospital.

The project supported by KMW

The log frame of the project finance by KMW is given below (Table 5).

Overall Goal of the Project		Improvement of the health situation of pregnant women, lactating mothers, a Serabu Hospital through enhanced qualitative basic health care service that lead tion of mother and child mortality in the region.
	Objectives	Activities
1.	Provision of basic qualitative health care for all pregnant women and lactating mothers at Serabu Hospital	1.1 To provide free of cost ambulance service in cases of risky pregnancy 1.2 To offer general and intensive health care to all pregnant women at the hospi patients) 1.3 To offer safe delivery service 1.4 To carry out obstetric interventions in case of emergency

		1.5 To provide food for in-patient mothers
2.	Provision of qualitative basic healthcare focussing on children under-five	2.1 To provide general and intensive health care service to all children at the ho outpatients) 2.2 To ensure that newborns in unstable conditions receive intensive care by the 2.3 To supply all patients on the children ward with one meal per day (incl. mother Mother Care) 2.4 To provide supplementary food for children from 0-6 month (children born tions)
3.	Preventive healthcare for pregnant women and children under five	3.1 To train community health workers and MCH-Aids as well as hospital staff or child health care. 3.2 To carry out sensitisation sessions through radio talks. 3.3 To strengthen the networks with governmental institutions and other sta NGOs, CBOs etc) 3.4 To provide logistical support to outreach personnel (transport costs)
4.	Functional quality management and human resource system place	4.1 To ensure the provision and maintenance of all required medical equipment 4.2 To ensure that hygiene standards and treatment procedures are applied 4.3 To monitor data and treatment statistics on a monthly basis 4.4 To provide training on child protection procedures

Table 5: Project objectives and activities of the KMW funded project

Fifty-eight indicators were determined to monitor the project activities (ANNEX 6).

Results of the evaluation

Buildings

Present situation

- The hospital is situated on a huge compound. The multiple buildings are grouped according to speciality with maternity and surgery blocks close together. Additionally there are empty buildings, and one block serving to lodge students.
- All wards look worn out. Walls are dirty, on the ceiling there are broken, dusty electric appliances and stains from rainwater.
- Space and bed capacity in the paediatric emergency ward is not sufficient. Beds are placed very close to each other. There is no space for staff to assist the children. Mothers sit at daytime in the little open space available, making access to the children who often need emergency care difficult if not impossible.
- In addition, caretakers / relatives of sick children need more space to stay at night with their children (bigger beds and space between beds) in the emergency ward!
- Due to rising numbers of admissions, space and bed capacity in the newborn unit is not sufficient. During my visit, 14 babies shared eight cots, two or even three babies sharing one bed. This can transfer infections resulting in death of the baby.

Figure 4 Paediatric emergency ward

Figure 5 Two premature babies on oxygen in an improvised "bed" in the overfull newborn unit

- Space capacity in the labour ward is also limited. The building is narrow. Space to accommodate a family member is needed as well as a third delivery bed!

Recommendations:

- It is urgent to increase bed capacity of the paediatric emergency ward and of the newborn unit.
- An extension of the labour ward is also recommended as well as a rehabilitation of all wards.

Clinical service for women and children in the hospital

Present situation

- Medical and nursing staff was described as very motivated and ready to help.
- Increasing utilisation rates especially in the children's ward show that the target population is accepting the service. All members of the Community Health Committee expressed great satisfaction with the service of the hospital: "They run to help emergency cases". Similar answers were given from guardians of children during exit interviews.

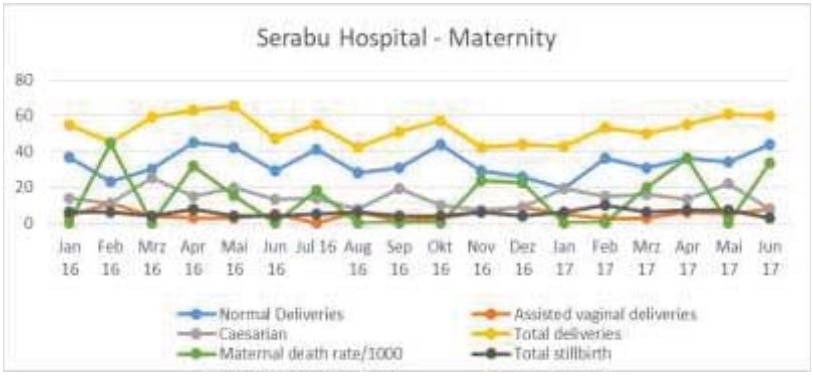


Table 6: Results of performance in the maternity

- The German specialists described most of the CHOs as capable, willing to learn and motivated to help their patients. They felt, that the specialised CHOs in surgery and anaesthesia are able to work totally on their own.
- Comparison between hospital mortality in the periods January – June 2016 and 2017 shows decreasing death rates in the newborn as well as in the other children's wards (Table 7). During review of patient files the impression that quality service is delivered was confirmed.
- Only malnutrition treatment seems insufficient due to lack of food and clear guidelines and supervision.
- In conclusion: The hospital is giving good quality clinical services except in the area of malnutrition management!

Serabu Community Hospital Performance January to June 2016 and 2017		
	Jan-June 2016	Jan-June 2017
Newborn admission	99	124
Newborn deaths	14	14
Newborn death rates %	14,9	11,7
Child admissions	898	963
Child deaths	81	73
Death rate in-patients %	9,7	7,6
- = Better result than in the other year		
- = Death rates		

Table 7: Outcome of inpatient treatment in the paediatric ward

Recommendations

- *German Doctors* and local staff use WHO and MSF guidelines, because National Guidelines are not available even in other hospitals of the country. International guidelines and standards should be replaced by national guidelines as soon as they are available.
- Treatment of severe acute malnutrition (SAM) needs more attention. Regular weight controls and close supervision are missing. A staff member should get on the job training in another hospital (Ola During Hospital in Freetown has a functioning unit).
- *German Doctors* specialists working for the first time abroad are sometimes overwhelmed by the difficult situation. It is recommended that German specialist doctors work for at least one

week under a long time specialist in the country before starting to work on their own in Serabu Hospital.

- Continuity of the on the job training by CHOs is not always given, if GD specialists change every 6 weeks. It is recommended to introduce a register per ward for follow up of all past trainings.

Support services

Present situation

Figure 6 Laboratory

- Triage point and laboratory services are well organized; wards receive the laboratory results quickly.
- The pharmacy was reorganized and it is functioning well. The person in charge is handling the computer software without problems. He is able to control in-going and out-going drugs daily. A second person trained in stock keeping of the pharmacy is on maternity leave.
- A new digital X-ray machine is available and functioning; two ultrasound machines are available and functioning. Some *German Doctors* and few CHOs were trained to use the machines.
- Registry and cashier offices also seem well organized. Nobody complained about irregularities. During the mission, the hospital received patient registration books from the government for the first time. They were asked to collect data from 1.8.2017 onwards and transmit them to the Government.
- Maintenance of equipment is not done regularly and the supervision of maintenance is not functioning. The electrician responsible for maintenance of the equipment got some training on the spot by visiting consultants. However, there are lots of broken equipment's in the wards. Only one oxygen concentrator out of many was functioning.

Recommendations

- The triage point of Serabu Hospital could take over the responsibility for weighing of all children. Until now, weighing is done routinely in the U5 clinic, but children with severe diseases do not pass through the outpatient department (OPD) and are sometimes admitted without the body weight.
- At least two to three Serra Leonean staff members should be trained at the x-ray and ultrasound machines, making one responsible for this equipment.
- For pharmacy stock keeping, at least one other person should be trained in computer skills to avoid a collapse of the system if the person in-charge is absent.
- It is recommended to send the electrician for in-service training to another hospital. Unfortunately, the situation seems similar in all other visited hospitals. Therefore, a training in a neighbouring country should be considered, if plans of CHASL to strengthen maintenance service countrywide do not become reality. Supervision of the maintenance unit and book keeping in the unit is to be improved.

Figure 7 Broken Oxygen Concentrators

Hygiene

Present situation

- Water containers for hand washing and disinfectants are available. Despite this, there is insufficient hygiene especially in the paediatric wards.
- Children, especially newborns and emergency cases need to share beds due to the high number of admissions and limited bed capacity.
- There are many things (old files, broken equipment, new material) kept in the wards which make cleaning difficult. Each department is storing its material unsystematically.
- The large compound of the hospital was only partly freed from high grass and other wild plants. Doctors were forced to cross such areas, which might hide snakes, on their way to the wards. Fortunately, during the visit the area close to the houses was freed of grass. To avoid mud in this area during the raining season. It remains necessary to cover the ground with gravel.

Figure 8 Operation Theatre Store

Recommendations

- Strengthening of regular supervision of hygiene in all wards by the staff with this special responsibility (sister in charge, matron, supervisor of cleaner)
- Create a central store with store management system and empty the wards of all the things, which are not immediately necessary. A very experienced short time consultant of *German Doctors*, arriving in September 2017, will work out an adequate system with the hospital management.
- Deposit all broken equipment.
- The children's ward need frequent wet mopping. Cleaning wards with a broom is not recommended, because the dust in hospital wards contains many harmful microbes!
- Strengthen the supervision of cleaners and groundsmen: is the number/distribution of cleaners sufficient?

Staff

Present situation

- The position of Medical Superintendent was assigned to the German specialist staying for a period of 2-3 years.
- In the newborn unit and in the emergency ward one persons per shift is not sufficient.
- The cultural shock of German specialists, who stay for six weeks only, easily leads to frustration and/or the impossible wish to change a lot in this short period.

Figure 9 Nurse in charge of the newborn unit

Recommendations

- More nurses in paediatrics and maternity are needed due to increasing patient numbers.
- It can lead to misunderstandings and frustration that a German medical superintendent does not have the same cultural background as the majority of staff. Therefore, it is recommended to search for a Sierra Leonean doctor to become Medical Superintendent. To attract such a doctor special salary conditions will have to be negotiated.

- A German long term doctor, preferably a paediatrician (see below), still will be necessary not only to supervise the short time specialists but also to improve the situation in the community health department.
- It would be of great advantage, if medical specialists of *German Doctors* could receive one week of introduction with a more experienced colleague in the country.
- Rotation of the nurses in-charge of the emergency ward, the newborn unit and the malnutrition unit leads to a loss of specialised knowledge and skills needed only in these departments. Specialised nurses in charge of these units should therefore not be included in the general six monthly rotation (as already practised in surgery and anaesthetics!).

Community Health and Outreach

Present situation

- The community health department is the only department getting government supplies (Malaria tests, HIV-tests, Malaria, TB and HIV drugs and PlumbyNut).
- The referral system for pregnant women from PHUs to the hospital is functioning well. Telephone calls from 60 PHUs are received. Free ambulance service is provided to collect women with pregnancy related problems.
- Radio messages on prevention and home care are given regularly.
- Three monthly meetings with the Community Health Committee did not show much result. Community works in the hospital (clearing the ground) were rare events.
- The community health department is headed by a CHO, with whom cooperation in the past was very difficult. A capable nurse left the department recently. The department is responsible for the PHU in the hospital and for outreach community work.

Figure 10 U5 Clinic in Serabu Hospital

- The PHU on the hospital compound is delivering U5 and ANC services. The U5 clinic is highly utilised, because also all children for the OPD are seen there. While in other PHUs of the country simple treatment is given directly, children in Serabu Hospital are referred to the OPD for medical check-up and treatment. This is time consuming for guardians because they have to queue for a second registration and again for the care.

Figure 11 Mothers with their children in the U5 Clinic of Serabu Hospital

- In the U5 clinic there is only one day designed for child vaccination despite of the advice of the EPI officer in the District Health Office to vaccinate daily in order not to miss an opportunity (do not be afraid of wastage of vaccines!). The fridge of the PHU was not functioning. Vaccines were stored in the laboratory fridge and in a fridge of another PHU at a distance of 6 miles. Health education and performance posters in the U5 clinic are not up to date.
- The hospital PHU is also responsible for HIV tests, TB treatment, and malnutrition treatment. According to the registration book, in June 6,6 % of women in the antenatal clinic (ANC) and 20% of

other tested persons were diagnosed to be HIV positive. This is very high considering the value of 1,5% reported by the Ministry of Health for the national level.

- A recent visit of UNICEF, who is supplying food for the malnourished children (Plumbynut), found malnutrition care not adequate.
- During the evaluation, a number of deficiencies in performance, hygiene, and service delivery in the hospital PHU were observed: The management of children and women is not up to date. Staff was not able to calibrate the balances. The feeding advice for HIV infected mothers was not up to date. Plotting of weight in the Road to Health Chart was not done, the weight to health ratio was not calculated, and not all ANC exams were performed.
- Twice per week, the staff of the Community Health Department visits PHUs in the target area. However, there is no regular plan for such visits. There is no actual register about these activities.
- Additionally, the Department performs outreach activities in some villages. During these visits, children are vaccinated and malaria is treated. During the outreach observed, many children attended; all were receiving a malaria test und were treated if positive – even without symptoms. We were told in the District office that only symptomatic children should be tested and treated if positive. There was no malnutrition screening.

Figure 12 Outreach to a village

Recommendations

- It is important to explore, why cooperation of the Community Health Unit with *German Doctors* in the past was so difficult. Only if the obstacles can be identified and overcome, there is the possibility to improve the service in the PHU and the community.
- If a future cooperation is wanted, a long-time paediatric doctor could supervise and strengthen the PHU activities in the hospital and community. Staff including the person in charge needs to be retrained and reorganized. According to the District Health Sister the hospital PHU is responsible for monthly supervision of six (not 60!) subunits.
- The replacement of the broken fridge was promised by the district office. All efforts should be undertaken to get a new fridge as soon as possible.
- Protocols for management of malaria, TB, and malnutrition should be displayed on the walls and performance posters need to be displayed and updated monthly.
- A questionnaire for monthly supportive supervisions of the six PHUs in Pumpe Ngao should be developed and all visits should be recorded.

Figure 13 Performance poster and map of the target area in one PHU visited

Training

Present situation

- From January to June 2017 19 formal training sessions were given to the CHOs (total participants: 232, average 12), and 9 times especially nurses were addressed (180 participants, average 20).
- The District Health Sister of Bo District acknowledged the training offered to staff of 60 PHU by Serabu Hospital.
- The daily morning sessions giving feedback on performance are much appreciated by the CHOs.
- All staff appreciates the in-service training during ward rounds.
- Workshops on child protection were held for hospital staff as well as for community stakeholders such as pastors, police, social ministry, world vision etc.
- Trainees and other staff appreciate the ongoing training of CHOs in surgery and anaesthesia. Those having passed the exams are very knowledgeable and able to work on their own. If there are two of them, CHOs trained in surgery and anaesthesia will be able to train others without the presence of German specialists.
- Varying numbers of CHOs and medical students are sent for in-service training to Serabu Hospital. Apartments for students are available on the hospital compound. However, some students in the past refused to come to Serabu because of the remoteness of the place.
- Nurses would like to be more included in future trainings.
- A midwife school will be opened this year in Bo with support of Action Medeor. It was agreed that the school will send midwife students for practical training to Serabu.

Figure 14 Daily CHO and Doctors meeting

Recommendations

- Continue to give in-service training to all (para-) medical cadres including midwives. The training of nurses in management of the most common diseases should be strengthened.
- CHOs will remain the future middle level workers in Sierra Leone for years to come. This holds true despite the fact that the government announced recently the start of an in country specialist training of doctors because this will have the first small output only in 5-6 years. *German Doctors* therefore should continue to train CHOs in surgery and anaesthetics until at least two trained CHO with official recognition of the government are working in the departments of Serabu Hospital.
- Until now there are no specialised paediatric CHOs in Sierra Leone, though children are one of the most vulnerable groups in the country. It is therefore recommended to explore with the government, if a specialisation training of CHOs in paediatrics would be supported concerning official recognition and salary group. *German Doctors* are ready to support such a programme not only for Serabu but also on a broader level for example in different church related hospitals or even in some government hospitals.
- A training plan for the most frequent and important diseases should be developed for each wards. Notes of the trainers are to be kept in the wards. This will allow follow up by future specialist colleagues.
- The specialised paediatric units (newborn care and malnutrition) need in-charges updated in these topics. Organize in country training of one or two nurses each in newborn care and management of severe malnutrition respectively.

- Train and supervise community staff members working in the U5 and HIV/TB programme of the hospital who are not up-to-date concerning these programmes.
- In-service training for the electrician in maintenance in another hospital (Ola During Hospital?) or neighbouring country is recommended if a central maintenance unit planned by CHASL does not become a reality.

Summary of Results according to DAC Criteria

Relevance:

- Sierra Leone is a very poor country with 70% of the population living in absolute poverty. The health system of the country suffered due to the war history and recently due to the Ebola epidemic. As a result, the child and maternal mortality are remaining extremely high.
- The target population of Serabu Community Hospital has no other access to hospital services due to the very poor infrastructure of this area. Therefore, a project to strengthen mother and child health through activities of prevention and care is highly relevant.
- The high utilization of the hospital and the U5 clinic proves that the project reaches the target group. All four objectives remain highly valid, while activities need to be adapted.
- The national health programme runs about 60 Primary Health Units within the target area of the hospital. They provide primary care, but do not treat severe cases as inpatients. A special need of these units was addressed, when an ambulance service for pregnant women was established. Marie Stopes, an UK's reproductive health charity, provides sexual health and family planning services.
- A local hospital committee has influence on the programme, but so far, it did not take over much responsibility.

Effectiveness

- The achievements of the project objectives are summarized in ANNEX 7.
- Evaluation of patient files, as well as exit interviews, interviews with staff members and focus group discussion with the Community Hospital Committee proved that good clinical services are delivered in the hospital.
- The referral system for pregnant women is in place and running smoothly. The community and the District Health Management Team praised it. The community asks for an extension of this service to cover also sick children.
- The Diocese of Bo as well as *German Doctors* have strict child protection policies. Child protection measures were implanted at different levels:
    - The hospital organised a stakeholder meeting in the community.
    - In the hospital, staff sensibilisation and training was performed. Ninety staff members participated.
    - The cases of affected children are transferred to World Vision for assistance and perpetrator punishment.
    - *German Doctors* specialists are only accepted with a "Polizeiliches Führungszeugnis (Police certificate of good conducts)".
- Cooperation of the U5 Clinic in the Hospital compound with *German Doctors* proved difficult in the past. The evaluation result of the work in the U5 was not satisfactory (see above). Special efforts to improve the preventive work in the U5 clinic of the hospital are needed.
- The second problem is insufficient hygiene and order (see above). Cross infection among patients may result. Introduction of a storing system will be initiated by GD. The supervision of cleaning is to be strengthened.

- Follow up of 58 indicators for monitoring of the project is time consuming. In the future project not activity but outcome indicators should be monitored. This would reduce the workload amongst others for the matron, giving her more time for staff supervision.
- In the last years, patient numbers were increasing. The numbers of nurses therefore is no longer adequate in paediatrics, and in maternity. For cleaners and groundsmen it has to be checked, if a better supervision is sufficient or if there is also need to increase the numbers.
- The installed *Satmed* Network provides access to Internet, which is used by medical staff. The full educative potential of *Satmed* Platform is not yet reached. Further staff training by *Satmed* is necessary.

Efficiency

- Reporting and auditing is done regularly and shows that finances are strictly controlled and no money is wasted.
- With a present inflation rate of 20 % per month the financial situation of the poor but also of the hospital becomes more and more difficult.
- All employees are asking for increase in salaries. The minimum salary of cleaners, groundsmen etc. is remaining at SLL500 000, however one sack of rice costs already SLL240 000.
- The hospital provides one meal per day to patients on a budget negotiated before this high inflation rate.

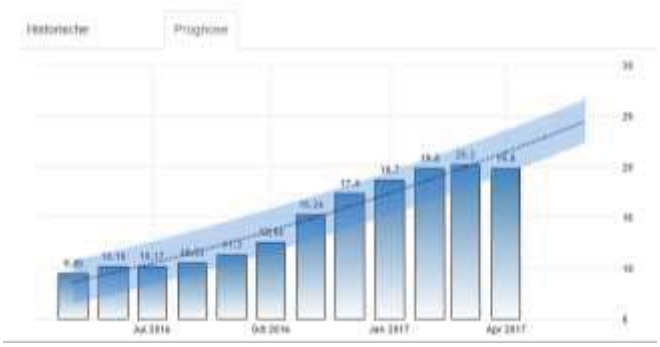


Figure 15: Sierra Leone Inflation rate, https://de.tradingeconomics.com/sierra-leone/inflation-cpi

- Procurement of equipment and materials is difficult. Like all other Christian hospitals, the Serabu Hospital has no access to the Central Medical Store of the Government. Procurement is done via private pharmacies. Like other Christian Hospitals, also Serabu Hospital, purchases some items even in Germany.
- At present, all extraordinary expenses have to be negotiated with *German Doctors*. The hospital would like to use some of its income to open a savings account (percentage of own income) for the hospital. This money would only be used in emergencies after own decision-making and only with the signature of the manager and the bishop.

Impact

- According to Community Hospital Committee, the Hospital has a high impact. A measurable impact may be shown, if the next DHS Survey proves a reduced mortality of women and children in the area.
- The increasing utilisation of the newborn unit was unexpected. It may be an indicator of a changing knowledge and attitude of the target population, who experienced that even sick newborns can recover!

Sustainability

Strategic Planning

- The Memorandum of Understanding (MoU) with the Diocese of Bo is running out in December 2017. The director of *German Doctors* encouraged the hospital board and management to

start an active process in order to develop a strategic plan for the future with help of an external Sierra Leonean moderator. In order to enhance ownership of Sierra Leoneans, *German Doctors* will not participate in this process, but invites two people to present the result in November in Germany. Findings of this evaluation will be used during the process.

- Financially, all Christian Hospitals in Sierra Leone are almost totally dependent on donations from abroad. Free health care for mothers and children cannot be financed from the small income from adult patients. Post Ebola money of big international donors is directed mostly to community work and to the district hospitals. During our visit, we saw that Bo District Hospital was renovated and seemed well utilised. So far, the Catholic Health Association CHASL was not effective in getting access to government resources for its members; in contrast, they are just recovering from a big financial scandal. At present, some catholic hospitals are discussing possibilities of founding a catholic health association with support of the bishop's conference. It is believed that they would be in a better position for negotiation and cooperation with the government.
- Sierra Leone at present has very few medical doctors and for example only one paediatrician. Most of the doctors are working in Western Region, i.e. in Freetown and surroundings. CHOs therefore will be the backbone for rural health facilities for the time to come. Practical CHO training therefore is important especially for the population living in rural areas. The CapaCare surgery project and the anaesthesia project of the government introduced CHOs with an additional 3 years training to serve in health centres and hospitals. Serabu Hospital is integrated in this training. Experiences with those, who have graduated from this specialising training, are excellent. One surgical CHO and one anaesthesia CHO are already working in Serabu. A second surgical CHO will finalise his studies soon. He intends to come back to Serabu Hospital. As soon as there are two surgical CHOs they can train the others and experienced German specialists will be needed only from time to time for special trainings and supervision. The same will be possible, as soon as another anaesthesia CHO is employed.
- Unfortunately, until now, there is no programme to strengthen CHO work in paediatrics. During the evaluation, we discussed about the possibilities of such a programme not only with the Serabu management but also with the Medial Superintendents of two other catholic hospitals (Holy Spirit Hospital in Makeni and Brothers of God in Lunsar). All saw a clear need for a training of CHOs in paediatrics and all are interested to participate in such training. The vision for the future would be to have a central training place in one of the bigger towns to train paediatric CHOs with practical training by *German Doctors* paediatricians in several hospitals. Serabu would remain one practical training site in paediatrics, but not the only site for *German Doctors*. This vision needs of course approval by the government. Amongst others, paediatric CHOs, like other specialized CHOs, would need to be recognized as a special cadre in the salary structure.
- This idea was discussed with the representative of the Bishop, who at present is also the secretary of the Bishops Conference. He promised to bring the topic of the situation of catholic hospitals and the vision for paediatric CHO training into the agenda of the next bishop's conference.

Conclusion and Recommendations

Sierra Leone is and will remain for quite some time "a donor driven country", as one of the CHOs said. For Serabu Hospital first steps to become the "driver" are made. They have a motivated management and some very experienced specialised CHOs. They will try to find and employ a local doctor as Superintendent and they are going to develop a strategy for the future without foreign participation. Financially, however, they remain dependent on foreign resources as long as the church is not getting access to government funds of the Free health Care Initiative. The restructuring of CHASL as well as the intention to form a catholic health association may improve the position of the church in this respect.

At present, however, it is recommended to KMW to continue financing the running costs of the Serabu Community Hospital and share costs of training activities with Else Kröner Fresenius Stiftung, who has agreed to support as well some training activities. Additional support by the government and/or donors is necessary for investments: rehabilitation of the whole hospital as well as building extensions for paediatrics, newborns and labour ward.

In future, a broader training approach of CHOs in paediatrics should be considered. *German Doctors* could send one paediatrician with one-year contract, who – as *German Doctors* coordinator – could assist in negotiation with the Ministry of Health and Sanitation of Sierra Leone about a new training agreement for paediatric CHOs. He/she should also help the management to reorganize the community work and U5 clinic.

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ACKNOWLEDGEMENT

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